

How Many Single Father Households are in the United States?

Description:

While completing this activity, students will estimate the number of single father households in the U.S. by exploring Census Bureau data. They will calculate the mean, median, and mode of a random sample of ten states, evaluate the mean, and analyze the median.

Standard:

CCSS.Math.Content.7.SP.A.2: Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.

| Family Households with Own Children Under 18, by State 2010 Census Congressional District Summary File | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------|--------------------------------------------|---------------------------------------|
| State | Family Households with Married Mother and Father | Family Households with Father (no spouse)* | Family Households with Mother (no spouse)* | Total Family Households with Children |
| Alabama | 348,191 | 37,524 | 152,354 | 538,069 |
| Arizona | 465,120 | 71,914 | 169,397 | 706,431 |
| California | 2,942,803 | 350,838 | 856,882 | 4,150,523 |
| Connecticut | 287,161 | 26,178 | 97,651 | 410,990 |
| Georgia | 756,525 | 80,664 | 320,430 | 1,157,619 |
| Hawaii | 91,610 | 10,737 | 23,808 | 126,155 |
| Louisiana | 304,080 | 45,517 | 160,689 | 510,286 |
| Maryland | 439,471 | 47,191 | 164,366 | 651,028 |
| Minnesota | 443,212 | 48,844 | 123,714 | 615,770 |
| Montana | 73,017 | 10,799 | 22,286 | 106,102 |
| Vermont | 45,224 | 6,647 | 15,364 | 67,235 |
| Virginia | 644,610 | 61,887 | 206,015 | 912,512 |
| *Data includes male or female householders who have no opposite-sex spouse living in their home. They have a least one child (biological, adopted, or step) under the age of 18 who has never been married. | | | | |

Activity Instructions for Students

Use the table to answer the questions listed on the worksheet. Round each value to the nearest whole number.

Activity Assessment

1. Estimate the mean number of **Family Households with Father (no spouse)** per state in the United States by calculating the mean of the randomly selected states in the table above.

66,562

2. Do you think the mean you calculated is an accurate representation of the mean number of **Family Households with Father (no spouse)** per state in the United States? Why or why not?

Answers will vary.

3. What is the median of the **Family Households with Father (no spouse)** in the above data set?

46,354

4. What does the median value tell us about the number of **Family Households with Father (no spouse)** in the United States?

5. What is the mode of the **Family Households with Father (no spouse)** in the above data set?

none

Teacher's Notes

Learning Objectives

Students will:

- Identify the correct values in a table.
- Estimate the average of a set of numbers by calculating the mean.
- Calculate the measures of central tendency for a set of data.
- Evaluate the accuracy of the mean of a sample for a given population.

Blooms Taxonomy

Analyzing

Instructions for Teachers

Before this Activity

If needed, review the following terms and concepts:

- **Mean** – a measure of center in a set of numerical data, computed by adding the values in a list then dividing by the number of values in a list.
- **Median** – a measure of center in a set of numerical data. The median of a list of values is the value appearing at the center of a sorted version of the list – or the mean of the two central values, if the list contains an even number of values.
- **Mode** – The value that occurs most often in a data set. A data set may have more than one mode, or may not have a mode at all.

During this Activity

Monitor students as they work.

After this Activity

Review student's responses and the major themes of the activity.